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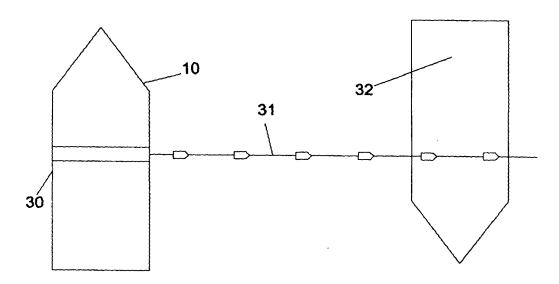
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TARGET INTERCEPTION



(57) Abstract: A projectile deployment system for use in a intercepting target (32) wherein the system includes a body (10) defining a body axis, and a number of barrels (30) circumferentially spaced around the body axis. Each of the barrels (30) contains a number of projectiles (31) axially stacked therein, with a corresponding number of charges being provided such that each charge is associated with a respective projectile (31) along barrel (30). Each of the charges is individually activated to deploy a respective projectile (31) in response to a signal from a controller.

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International application No.

PCT/AU2003/001034

| <b>A.</b>   | CLASSIFICATION OF SUBJECT MATTER   |  |     |  |  |
|---|--|--|-----|--|--|
| Int. Cl. 7:   | F42B 12/60; F41H 11/02; F41F 1/00  |  |     |  |  |
| According to  | International Patent Classification (IPC) or to both   | national classification and IPC  |     |  |  |
|   | FIELDS SEARCHED  |  |     |  |  |
| Minimum docu  | amentation searched (classification system followed by c   | lassification symbols)   |     |  |  |
| Documentation AU:   | searched other than minimum documentation to the ext<br>IPC F41F 1/00; F41G 7/00, 7/20; F41H 11/0  | tent that such documents are included in the fields searce 02: F41B 12/32, 12/36, 12/60  | hed |  |  |
| Electronic data   | base consulted during the international search (name of Q79/DC with keywords such as intercept, mi   | data base and, where practicable search terms used)  |     |  |  |
|   | DOCUMENTS CONSIDERED TO BE RELEVANT  |  |     |  |  |
| Category*   | Category* Citation of document, with indication, where appropriate, of the relevant passages   |  |     |  |  |
| P, X  | WO 03/006915 A (METAL STORM LIMI<br>Whole document   | 1-28, 32-49  |     |  |  |
| x   | WO 01/53770 A (METAL STORM LIMIT Whole document  | 1-28, 32-49  |     |  |  |
| X   | EP 821215 A (TRW INC.) 28 January 199<br>Whole document  | 34, 35, 40-47  |     |  |  |
| X F   | urther documents are listed in the continuation  | n of Box C X See patent family ann   | ex  |  |  |
| * Special categories of cited documents:  "A" document defining the general state of the art which is not considered to be of particular relevance  "E" earlier application or patent but published on or after the international filing date  "T" later document published after the international filing date or priori and not in conflict with the application but cited to understand the portion or theory underlying the invention document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive service. |  |  |     |  |  |
| claim(s)<br>publicat<br>reason (  | ent which may throw doubts on priority "Y" of or which is cited to establish the tion date of another citation or other special (as specified) | hen the document is taken alone occument of particular relevance; the claimed invention cannot be onsidered to involve an inventive step when the document is combined ith one or more other such documents, such combination being obvious to person skilled in the art occument member of the same patent family |     |  |  |
| "P" docume<br>date but  | on or other means<br>ant published prior to the international filing<br>t later than the priority date claimed                                 |  |     |  |  |
| 12 January 2  |  | Date of mailing of the international search report  1 6 JAN 2004   |     |  |  |
| AUSTRALIAN  | ing address of the ISA/AU I PATENT OFFICE  | Authorized officer   |     |  |  |
| PO BOX 200, V<br>E-mail address:<br>Facsimile No. (   | WODEN ACT 2606, AUSTRALIA<br>pct@ipaustralia.gov.au<br>(02) 6285 3929  | JEFFREY CARL Telephone No: (02) 6283 2543  |     |  |  |
|   |  | 10. (02) 0203 2343   |     |  |  |

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International application No.
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| C (Continua | tion). DOCUMENTS CONSIDERED TO BE RELEVANT   |                       |  |
|-------------|--|-----------------------|--|
| Category*   | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |  |
| х           | US 5535679 A (CRADDOCK) 16 July 1996<br>Whole document                             | 34, 35, 40-47         |  |
| . <b>X</b>  | WO 97/16696 A (HOLLANDSE SIGNAALAPPARATEN B.V.) 9 May 1997<br>Whole document       | 34, 35, 40-47         |  |
| x           | GB 1430750 A (BOLKOW GmbH) 7 April 1976<br>Whole document                          | 34, 35, 40-47         |  |
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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2003/001034 ·

| Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)  |  |  |  |  |  |
|--|--|--|--|--|--|
| This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:   |  |  |  |  |  |
| 1. Claims Nos:   |  |  |  |  |  |
| because they relate to subject matter not required to be searched by this Authority, namely:   |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 2. Claims Nos:   |  |  |  |  |  |
| because they relate to parts of the international application that do not comply with the prescribed requirements to   |  |  |  |  |  |
| such an extent that no meaningful international search can be carried out, specifically:   |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 3. Claims Nos:   |  |  |  |  |  |
| because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)   |  |  |  |  |  |
| Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)  |  |  |  |  |  |
| This International Searching Authority found multiple inventions in this international application, as follows:  |  |  |  |  |  |
| 1. Claims 1-33, 36-39, 48, 49 directed to various projectile deployment systems, methods of manufacturing  |  |  |  |  |  |
| projectile deployment systems and methods of intercepting targets wherein each of the systems and methods are characterised by including a body having a number of barrels with each barrel including an array of axially      |  |  |  |  |  |
| stacked projectiles and associated propellant charges; and 2. Claims 34, 35, 40-47 directed to various methods and apparatus for intercepting a target wherein each of the   |  |  |  |  |  |
| methods and apparatus are characterised by including a body with a number of projectile systems wherein each   |  |  |  |  |  |
| projectile system deploys a number of projectiles in a predetermined direction. There is no restriction that each of the projectile systems comprises a barrel including an axial array of projectiles and associated charges. |  |  |  |  |  |
| 1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims   |  |  |  |  |  |
| 2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.  |  |  |  |  |  |
| As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:                           |  |  |  |  |  |
| 2  |  |  |  |  |  |
|  |  |  |  |  |  |
| 4. No required additional search fees were timely paid by the applicant. Consequently, this international search report  |  |  |  |  |  |
| is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  |  |  |  |  |  |
|  |  |  |  |  |  |
| Remark on Protest The additional search fees were accompanied by the applicant's protest.  |  |  |  |  |  |
| No protest accompanied the payment of additional search fees.  |  |  |  |  |  |
|  |  |  |  |  |  |



Information on patent family members

International application No. PCT/AU2003/001034

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

| Patent Document Cited in<br>Search Report |           | Patent Family Member |            |    |            |   |         |
|---|-----------|----------------------|------------|----|------------|---|---------|
| wo  | 03/006915 | AU                   | 2002325618 |    |            | •                                       |         |
| wo  | 01/53770  | ΑU                   | 200140322  | BR | 0107852    | CA                                      | 2396074 |
|   | •         | EP                   | 1250561    | US | 2003172832 |   |         |
| EP  | 821215    | CA                   | 2251076    | JР | 11-264699  |   | 7       |
| US  | 5535679   | EP                   | 718590     |    |            |   |         |
| WO  | 97/16696  | AU                   | 72953/96   | CA | 2235407    | EP                                      | 856142  |
|   |           | NO                   | 981709     |    |            |   |         |
| GB  | 1430750   | FR                   | 1605447    |    |            | *************************************** |         |

**END OF ANNEX**